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November 1963

PHOTOGRAPHIC INTERPRETATION REPORT

# HEN ROOST ANTENNAS ANTIMISSILE TEST CENTER SARY SHAGAN, USSR, JULY 1963

DECLASS REVIEW by NIMA/DOD



CIA

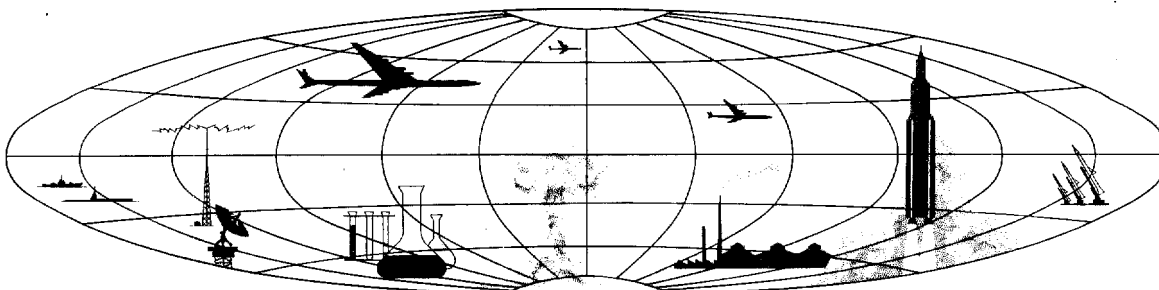


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PHOTOGRAPHIC INTERPRETATION REPORT

HEN ROOST ANTENNAS  
ANTIMISSILE TEST CENTER  
SARY SHAGAN, USSR, JULY 1963

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## PREFACE

This report includes a description of HEN ROOST Antennas North and South at the Antimissile Test Center, Sary Shagan, USSR, (Figures 1 and 2) with particular emphasis on changes apparent from recent photography and is prepared in response to SRI 282 T-1-63 and in partial response to AF-4-63 and OSI/R-135-63. It is based on available photography of the HEN ROOST antennas ranging from earliest [ ] coverage of [ ] to [ ] coverage of [ ] Relatively frequent comparative [ ] coverage has been received since [ ] and, although of small scale, is of fair to good quality. Both facilities are covered in their entirety, as compared with partial coverage provided by [ ]

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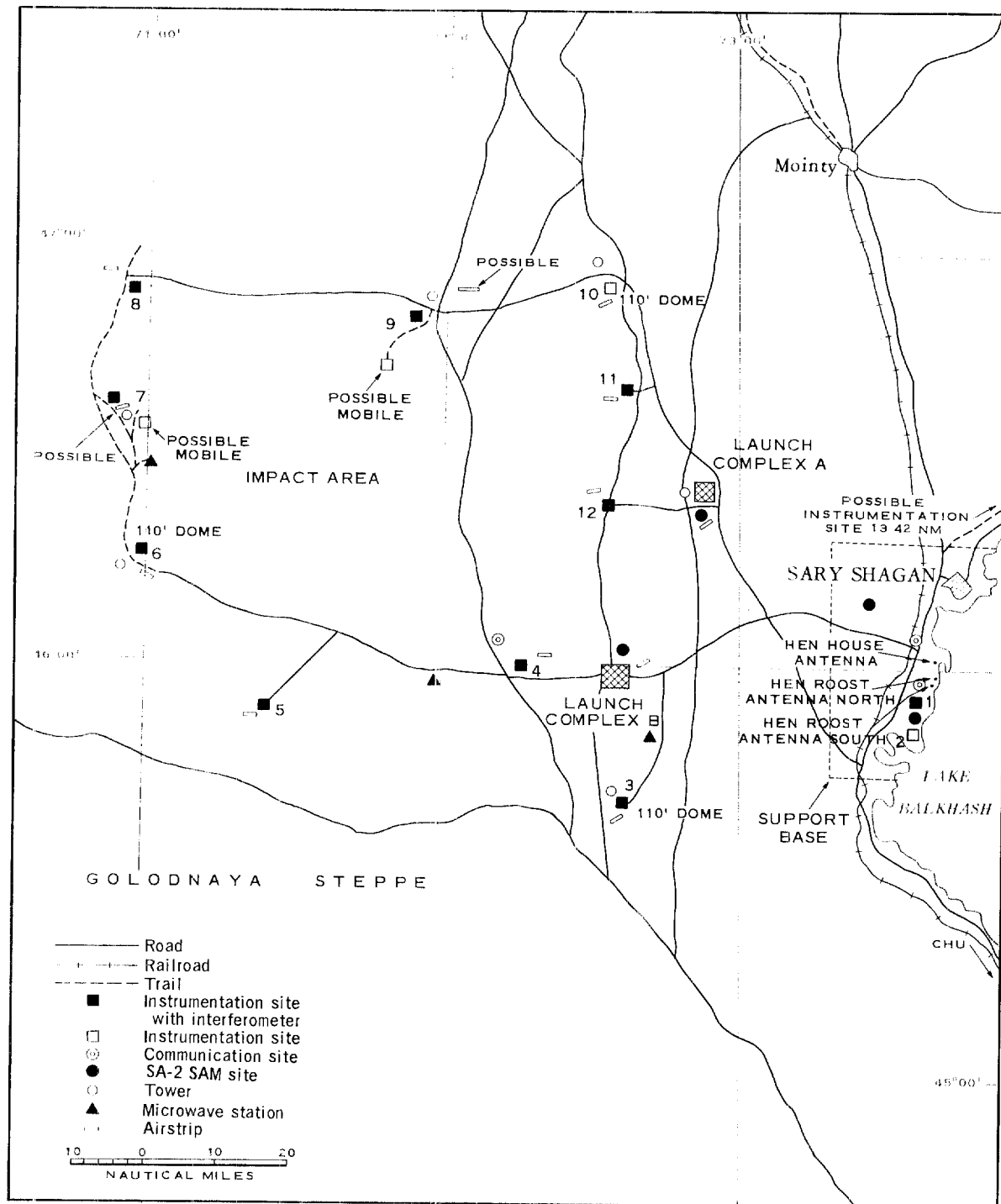


FIGURE 1. ANTIMISSILE TEST CENTER, SARY SHAGAN, USSR.

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# SUMMARY

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Details of HEN ROOST Antenna North from almost complete [ ] coverage of [ ] revealed the facility to be virtually complete; comparable details were not available on HEN ROOST Antenna South, since that site was approximately 90 percent cloud covered and under construction at the time. Certain structural details still are lacking on HEN ROOST Antenna

[ ] such a screen does exist, it would appear to differ from that of HEN ROOST Antenna North. No significant change was noted in facilities discernible at HEN ROOST Antenna South as judged from complete [ ] coverage of [ ] [ ] two small structures were constructed in the support area north of the possible reflector screen. Three small square structures appeared just east of and paralleling the possible reflector screen between [ ] The immediate support area just to the east remained unchanged except for the dismantling of three buildings sometime between [ ]

The reflector screen, clutter screen, and control building at HEN ROOST Antenna North do not appear to have changed from [ ] to [ ], as judged from current small-scale photography. A number of changes are apparent, however, in the smaller operational and support buildings at the site. From [ ] [ ] two small support buildings were dismantled and seven small buildings or objects (including three possible) were constructed. Additional activity was noted in [ ] when several sites east of the reflector screen were cleared of vegetation and two or possibly three small unidentified structures and one

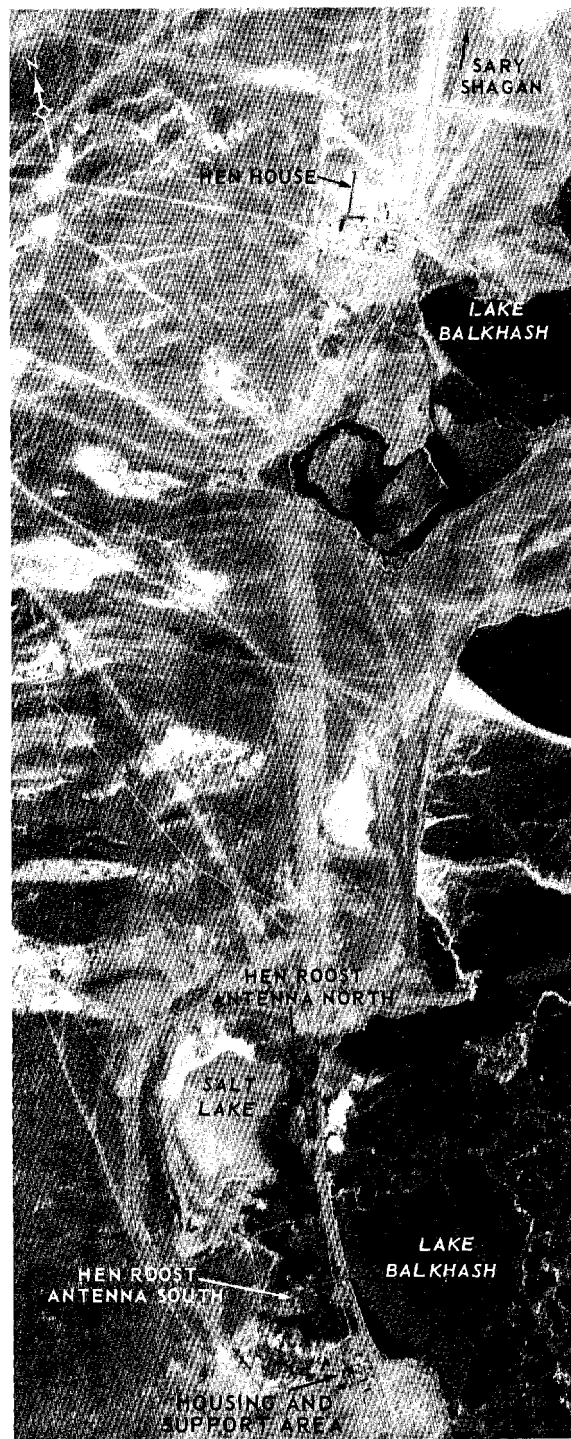


FIGURE 2. HEN HOUSE AND HEN ROOST ANTENNAS.

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building (approximately 160 feet long) were erected. In [ ] a long ground scar appeared close to the west side of the screen and paralleling it. This scar was not distinguishable in [ ] Analysis of various representative [ ] missions giving complete coverage of the HEN ROOST antennas and surrounding areas and providing better orbital data than previously available indicates the azimuth of the HEN ROOST

Antenna North to be more accurately placed at [ ]

The only changes noted in the main support and housing area for the HEN ROOST antennas occurred between [ ] when a motor pool and an unidentified ground pattern appeared.

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### HEN ROOST ANTENNA NORTH

(Figures 3, 4, 5, and 6)

#### Location

This antenna (45-56-05N 73-38-20E) is situated on the west shore of Lake Balkhash, approximately 10 nautical miles (nm) south

of the town of Sary Shagan. The HEN HOUSE antenna lies 3.2 nm to the north-northeast and the primary Sary Shagan airfield 7.5 nm to the northwest.

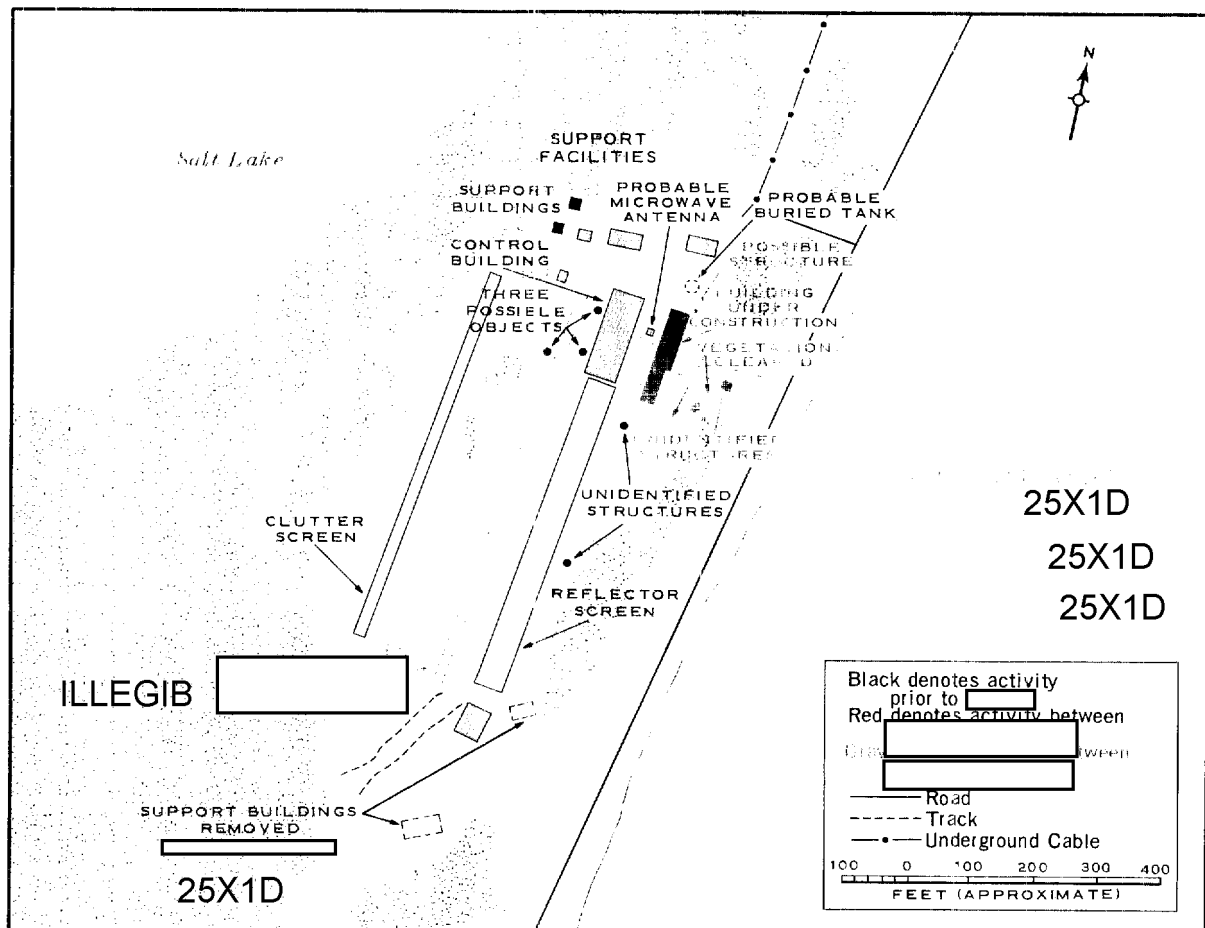


FIGURE 3. HEN ROOST ANTENNA NORTH, WITH CURRENT CHANGES NOTED.

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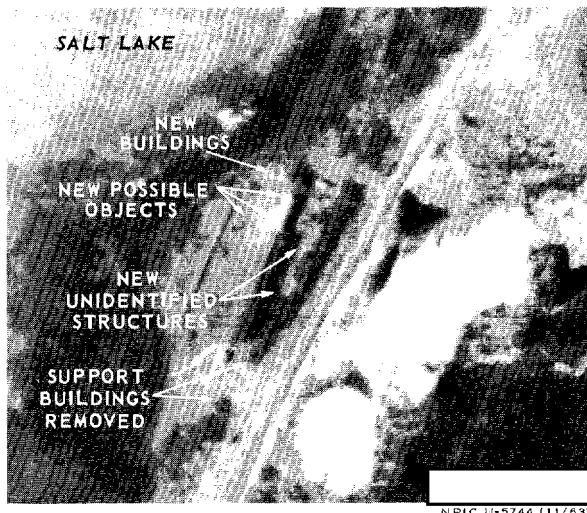


FIGURE 4. HEN ROOST ANTENNA NORTH. Changes indicated from [redacted]

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Access

The facility is served by a road spur off the main road extending south from the main section of the support base along the west shore of Lake Balkhash. Trackage indicates access from the rail offloading area at the support base directly across the natural terrain to this facility. Direct rail service is not present.

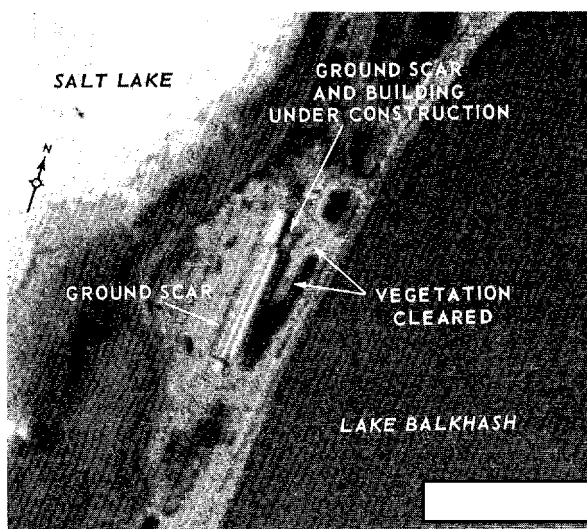


FIGURE 5. HEN ROOST ANTENNA NORTH. Changes indicated from [redacted]

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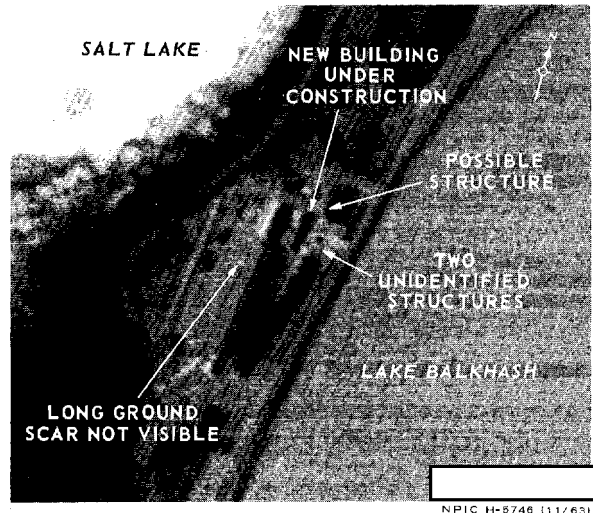


FIGURE 6. HEN ROOST ANTENNA NORTH. Changes indicated from [redacted]

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Reflector Screen

No apparent change is observed in the reflector screen since [redacted] photography of [redacted]. The screen is approximately 510 feet long and 65 feet in chord (vertical) and contains 13 main vertical ribs. A line constructed perpendicular to it is oriented at [redacted]. The feed reflector appears to be discernible in front of and parallel to the fixed reflector screen. Additional structural details obtained primarily from analysis of shadows on [redacted] photography are not discernible on [redacted] photography.

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Clutter Screen

No change is observed in the ground clutter screen since [redacted]. This screen parallels the reflector screen and is approximately 280 feet to the west. It is approximately 620 feet long and [redacted] high. The screen extends the full length of the reflector screen and approximately 110 feet beyond to the north. Four small patches of apparent vegetation just east of the clutter screen appear on [redacted] essentially as they did in [redacted]. The

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terrain appears to drop gradually from the clutter screen to a small salt lake beyond, with only low vegetation between the screen and the lake.

#### Control Building

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The control building, which reveals no change since [ ] is adjacent to the reflector screen to the north and is aligned in the same direction as the screen. It is a gable-roofed, rectangular building, measuring 145 by 45 feet, and is approximately [ ] high.

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#### Support Facilities

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South of the reflector screen. Two of the three small support buildings present in [ ]

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[ ] just south of the reflector screen have been removed: the one to the north between [ ]

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[ ]; the one to the south between [ ]

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East of the reflector screen. The buried tank and the microwave antenna observed on [ ]

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photography of [ ] just east of the control building appear to be present on [ ]

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photography, although barely discernible. Two small unidentified structures were observed on

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photography of [ ] one just east of the north end of the reflector screen and one just

east of the center of the screen. These structures were either cloud covered or not present

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on [ ] and

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[ ] certain segments of vegetation and trees were cleared just east of the northern half of the reflector screen. By [ ] a ground scar extended northeast from the north end of the screen to a building in the initial stages of construction. By [ ] two small unidentified structures were apparent at the site and the building under construction was observed to parallel the control building and to measure approximately 160 feet in length. Construction details of the building are not discernible. It appears to consist of two sections or may possibly be two separate buildings. The northern section appears higher and wider than the southern. A ground scar extends to the building from the coastal road and beyond to the control building. A light tone at the northeast side of the building appears to be a structure.

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West of the reflector screen. Two small buildings and three possible objects were constructed between [ ] just northwest and west of the reflector screen. Apparent on photography of [ ] is a dark ground scar extending west from the small building at the southern end of the screen an additional 55 feet and then paralleling the full length of the reflector screen to an undetermined point west of the control building. The scar is not as pronounced along the northern extremity. No evidence of this scar could be found on photography of [ ]

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#### HEN ROOST ANTENNA SOUTH

(Figures 7, 8, 9, and 10)

#### Location

This antenna (45-55-20N 73-38-05E) is situated on the west shore of Lake Balkhash, approximately 3,080 feet south of HEN ROOST Antenna North.

#### Access

It is served by a road spur from the coastal road extending south from the main section of the

support base and from HEN ROOST Antenna North. Rail service is not present at the site.

#### Reflector Screen

This facility was observed under construction on largely cloud-covered [ ] photography of [ ] On current small-scale [ ] photography the existence of a re-

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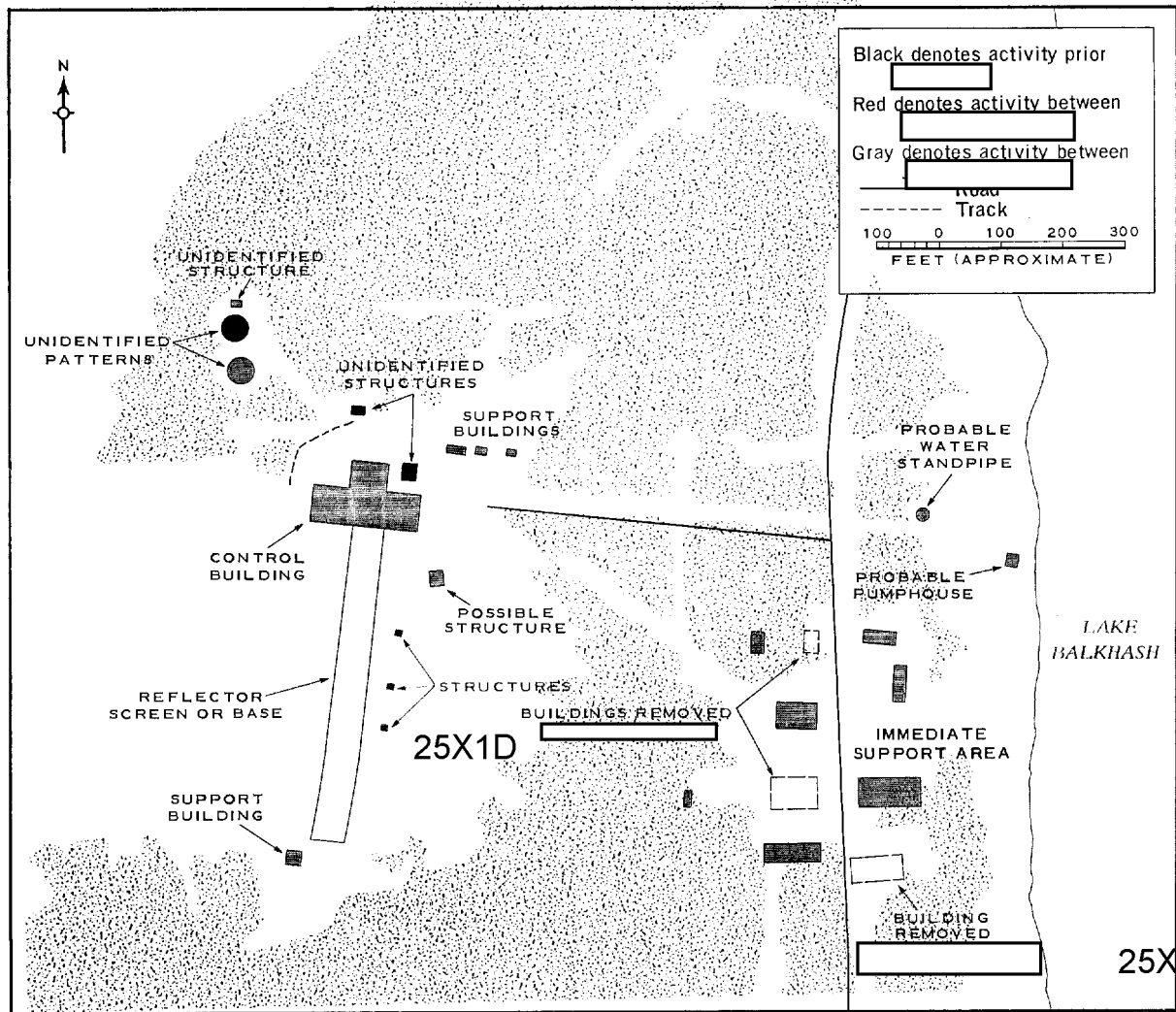


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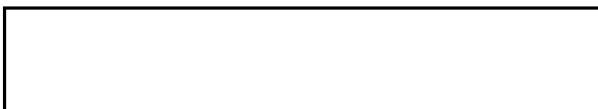
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FIGURE 7. HEN ROOST ANTENNA SOUTH, WITH CURRENT CHANGES NOTED.

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flector screen cannot be confirmed or denied.



screen or the base for the screen is approximately 510 feet long and is oriented at approximately [redacted]. There appears to be a slight curvature at the south end of the concrete base structure. Immediately adjacent to the south is a small support building. Three small square

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structures appeared between [redacted]

[redacted] immediately east of and paralleling the screen. Ground clearings were observed on [redacted] photography west of the reflector screen approximately 1,200 feet long and east of the screen approximately 620 feet long. The maximum width of the clearings to the east and west approximates 800 feet, a figure slightly in excess of the combined widths of the possible reflector screen and the control building.

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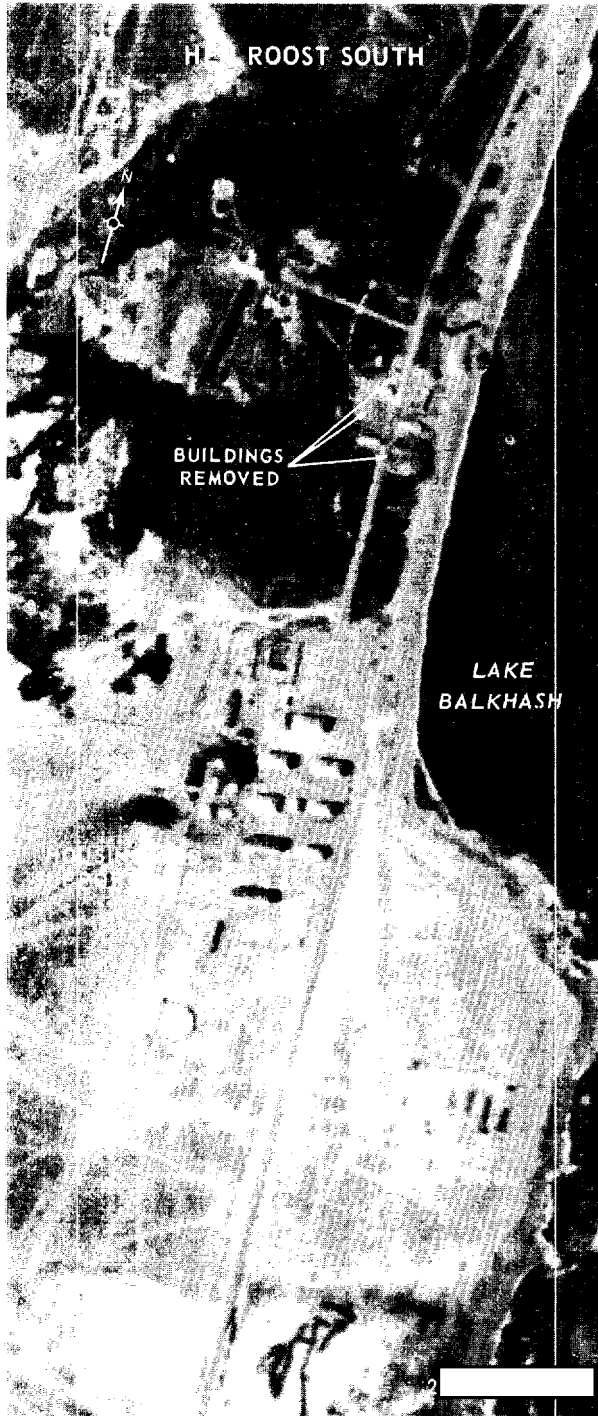


FIGURE 8. HEN ROOST ANTENNA SOUTH, AND HOUSING AND SUPPORT AREA. Changes indicated from [redacted]

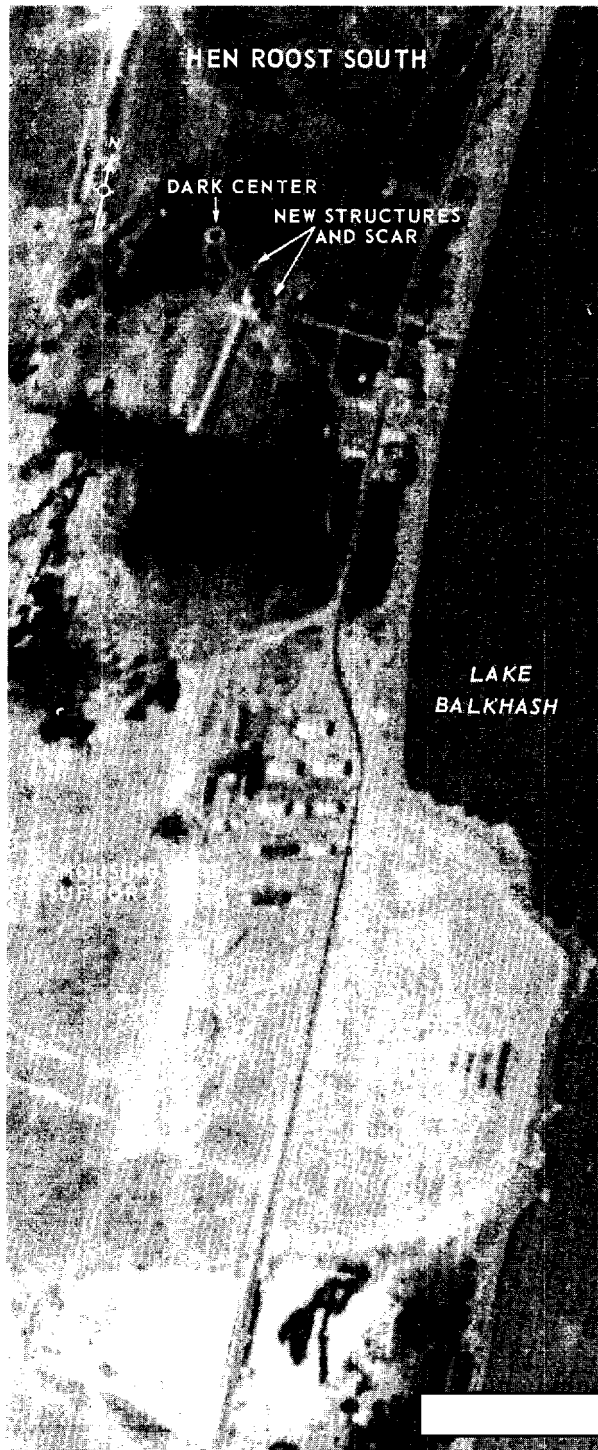


FIGURE 9. HEN ROOST ANTENNA SOUTH, AND HOUSING AND SUPPORT AREA. Changes indicated from [redacted]

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FIGURE 10. HEN ROOST ANTENNA SOUTH, AND HOUSING AND SUPPORT AREA. Changes indicated from [redacted]

#### Clutter Screen

None present.

#### Control Building

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Immediately adjacent to the north end of the reflector screen is a T-shaped control building. The major component of the building is perpendicular to the possible reflector screen and is approximately 125 by 40 feet; the secondary component parallels the screen and is approximately 65 by 50 feet. Both components are an estimated 40 feet high. [redacted] three small support buildings and one possible unidentified structure were observed generally east of the control building. These may have been present in [redacted]

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[redacted] Two circular ground patterns, each approximately 70 feet in diameter and connected to the control building by a ground scar, are situated 200 feet to the northwest of the control building. The center of the southern circle is dark in tone and has not changed materially since [redacted] when first observed. For the first time the center of the northern pattern appears dark in tone on photography of [redacted]

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[redacted] A small structure remains along the north edge of the northern pattern. Two additional small structures, one of which has a short ground scar extending to it, are visible on photography of [redacted] north of the control building.

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#### Immediate Support Area

Astride the main coastal road approximately 1,200 feet east of the possible reflector screen are approximately seven small buildings of various sizes, a probable pumphouse and a probable water standpipe. Three buildings appear to have been removed here between [redacted]

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[redacted] No new construction at the site appears to have taken place from at least [redacted]

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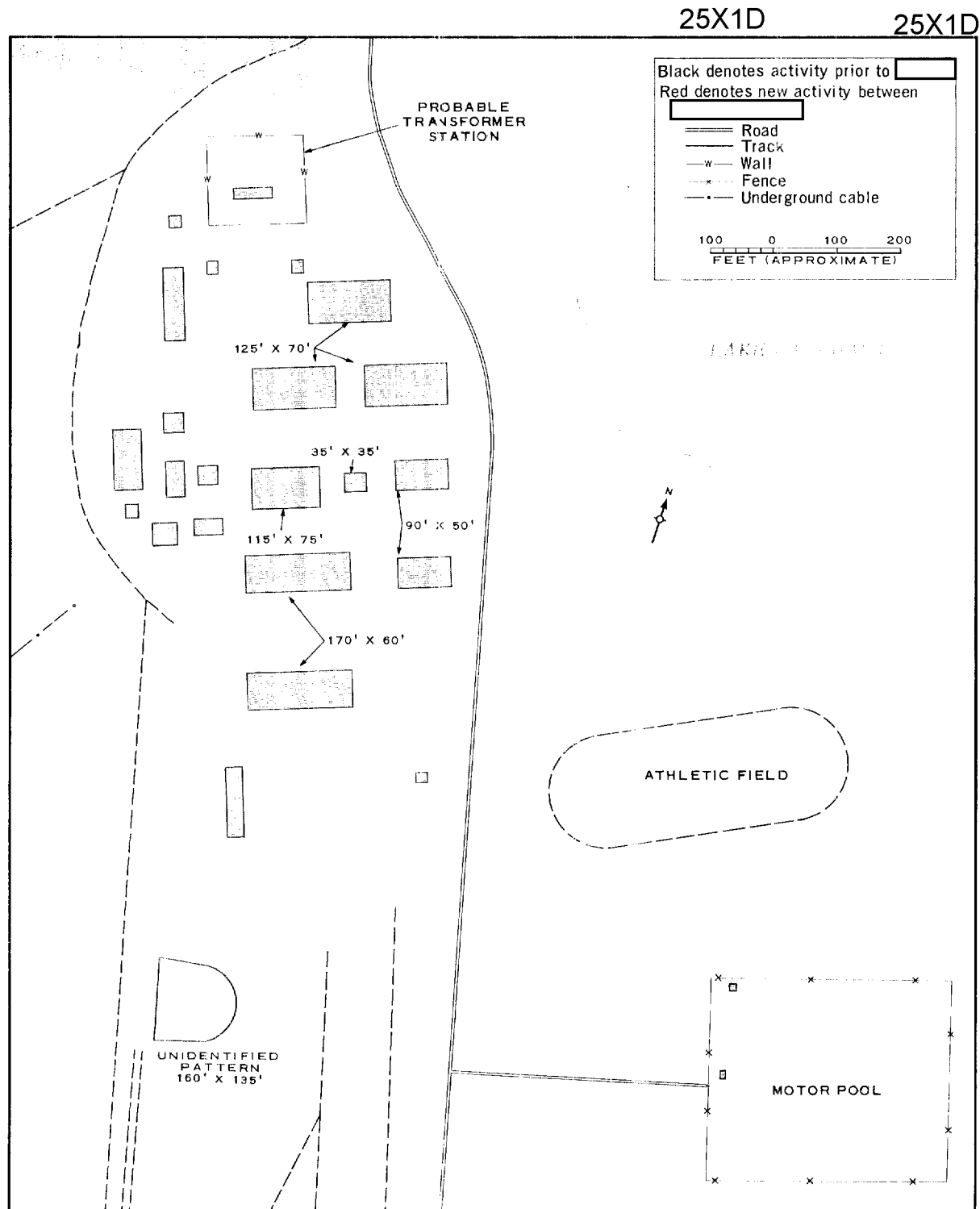


FIGURE 11. HEN ROOST HOUSING AND SUPPORT AREA, WITH CHANGES NOTED.

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# HOUSING AND SUPPORT AREA FOR HEN ROOST ANTENNAS NORTH AND SOUTH

(Figures 8, 9, 10, and 11)

A road-served housing and support area, probably for both HEN ROOSTS, is situated approximately 1,500 feet south-southeast of HEN ROOST Antenna South. No major changes have occurred at the installation as determined from photography of [redacted] except for the appearance in [redacted] of a motor pool close to the shore, occupied in varying de-

grees on subsequent coverage, and of an unidentified ground pattern (160 by 135 feet) just south of the installation proper. This latter pattern has appeared light in tone on all available coverage. Other components include a probable transmitter station; an athletic field; approximately 20 buildings, mostly barracks and storage type; and a number of small support buildings.

## REFERENCES

### MAPS OR CHARTS

SAC. US Air Target Chart, Series 200, Sheet 0245-15AL, 1st ed, Mar 60, scale 1:200,000 (SECRET)

DESPA. Series 1, Sheet NL 43-7, 1st ed, Jun 62, scale 1:250,000 (TOP SECRET [redacted])

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REFERENCES (Continued)

DOCUMENTS

1. NPIC. R-21/63, Antimissile Test Center, Sary Shagan, USSR, Changes and Additions

(TOP SECRET)

2. NPIC. R-1004/61, Photographic Study of HEN ROOST Antimissile Test Center, Sary Shagan, USSR,

(SECRET)

3. CIA. PIC/JR-1010/61, Antimissile Complex, Sary Shagan, USSR,

(SECRET)

RELATED DOCUMENT

NPIC. R-61/63, Antimissile Test Center, Sary Shagan, USSR, Changes and Additions

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REQUIREMENTS

Army. SRI 282 T-1-63

Air. AF-4-63

CIA. OSI/R-135-63

NPIC PROJECT

J-80/63 (partial answer)

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